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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,636	08/03/2001	Bart R. Jones	44560	5802

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THE DOW CHEMICAL COMPANY
INTELLECTUAL PROPERTY SECTION
P. O. BOX 1967
MIDLAND, MI 48641-1967

EXAMINER

KIM, CHONG HWA

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 08/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/921,636

Applicant(s)

JONES, BART R.

Examiner

Chong H. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-26, 28-31 and 34-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31, 34-36 and 46-52 is/are allowed.
- 6) ☒ Claim(s) 23-26, 28-30 and 37-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Claim 28 which depends from the canceled claim 27 has been assumed to depend from claim 23. The applicant must correct appropriately in the next Response.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 39 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 37 recites that the cure-on-demand adhesive resists curing until after the first and second mating surfaces are joined. However, claim 39 depending from claim 37 recites that the cure-on-demand adhesive is curable upon removing a protective seal to expose the adhesive to ambient conditions. The claimed subject matter in claim 39 appears to

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contradict the nature of the adhesive recited in claim 37 because the adhesive recited in claim 39 would start to cure before the mating surfaces are joined.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 23, 28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Ritter et al., WO 00/43644.

Ritter et al. shows, in Figs. 1-4, an oil pan assembly, comprising;
an engine component 32 having an associated first mating surface 36;
a molded plastic oil pan 12 (as described in the English translation, on page 3, line12) configured with a plurality of integrally formed clips 18 adapted to align the oil pan with the engine component, the oil pan having an associated second mating surface 14;

an adhesive 20 in contact with the first mating surface and the second mating surface for joining the first component and the oil pan to define an oil pan assembly;

wherein the first mating surface and the second mating surface are generally planar.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al in view of Ogawa, U.S. Patent 4,498,433.

Ritter et al. shows, as discussed above in the rejection of claim 23, the oil pan assembly comprising the molded plastic oil pan, but fails to show an additional layer on the oil pan and a primer on the mating surface.

Ogawa shows, in Figs. 18-30, an oil pan assembly, comprising; an engine component 202 having an associated first mating surface; a molded plastic oil pan 311 having an associated second mating surface; wherein the oil pan further comprises an additional layer 313.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the additional layer as taught by Ogawa on the oil pan of Ritter et al. in order to provide an "oil-tight layer (in order to) prevent the engine oil, moisture from the outside and the like from penetrating" as described on column 6, lines 7-10 by Ogawa.

As to the matter of the primer on the mating surfaces, Examiner takes official Notice the fact that providing a primer for adhesion is known in the chemical bonding art and such utilization of the practice would be within the level of ordinary skill in the art. See Pluddemann, U.S. Patent 4,961,967.

8. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al. in view of Ogawa as applied to claims 23 and 24 above, and further in view of Drauglis et al., U.S. Patent 4,374,717.

Ritter et al. in view of Ogawa shows, as discussed above in the rejection of claims 23 and 24, the oil pan assembly comprising the molded plastic oil pan including two layers of materials but fails to show the pan having a plasma coating thereon.

Drauglis teaches, in column 3, lines 5-13, a thermoplastic article having a plasma coating.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the plastic oil pan of Ogawa with a plasma coating as taught by Drauglis in order to “compensate for minute surface defects or create a high gloss underlayer” as described by Drauglis.

9. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al. in view of Tani et al., U.S. Patent 5,250,629.

Ritter et al. shows, as discussed above in the rejection of claim 23, the oil pan assembly comprising the molded plastic oil pan but fails to show the oil pan being made of polyamide and syndiotactic polystyrene.

Tani et al. discloses, in the Abstract and in column 22, lines 3-29, an engine parts comprising a material made of polyamide and syndiotactic polystyrene.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the material of the oil pan of Ritter et al. with the

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thermoplastic material as taught by Tani et al. in order to provide a stronger and lasting oil pan that reduces the maintenance and labor costs.

10. Claims 37-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rittter et al., in view of Mochizuki et al., U.S. Patent 4,985,523.

Rittter et al. shows, in Figs. 1-4, an oil pan assembly, comprising;

an engine component 32 having an associated first mating surface 36;

a molded plastic oil pan 12 (as described in the English translation, on page 3, line12) having an associated second mating surface;

a cure-on-demand adhesive 20 in contact with the first mating surface and the second mating surface for joining the first component and the oil pan to define an oil pan assembly, wherein the cure-on-demand adhesive is able to withstand exposure to hydrocarbon materials (oil);

wherein the first mating surface and the second mating surface are generally planar;

wherein the cure-on-demand adhesive is curable upon an application of heat or an application of infrared light or ultraviolet light;

but fails to show the cure-on-demand adhesive resisting curing until after the surfaces are joined.

Mochizuki et al. shows, in column 7, lines 9-29 and lines 58-64, a cure-on-demand adhesive that is able to withstand exposure to hydrocarbon materials (oil) and resists curing until after the first and second mating surfaces of oil pan are joined.

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It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the quick curing adhesive of Ritter et al. with the adhesive that cures after the surfaces are joined as taught by Mochizuki et al. in order to provide a better quality control during the manufacturing process so that less imperfection product may be produced which increases the profitability.

As to the matter of the cure-on-demand adhesive being curable upon rupturing a curing agent, an application of radio frequency, or an application of moisture, Examiner takes Official Notice the fact that such curing operations are well known in the art of adhesive, as the applicant admitted in the specification, and it would have been obvious to utilize these known processes to cure an adhesive and would be within the level of ordinary skill in the art.

11. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al. in view of Mochizuki et al. as applied to claim 37 above, and further in view of Tani et al.

Ritter et al. in view of Mochizuki et al. show, as discussed above in the rejection of claim 37, the oil pan assembly comprising the molded plastic oil pan but fails to show the oil pan being made of polyamide and syndiotactic polystyrene.

Tani et al. discloses, in the Abstract and in column 22, lines 3-29, an engine parts comprising a material made of polyamide and syndiotactic polystyrene.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the material of the oil pan of Ritter et al. with the

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thermoplastic material as taught by Tani et al. in order to provide a stronger and lasting oil pan that reduces the maintenance and labor costs.

Response to Arguments

12. Applicant's arguments with respect to claims 23-30 and 37-45 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

13. Claims 31, 34-36, and 46-52 are allowed.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Oil pan and cured adhesive.

Leydorf et al., U.S. Patent 4,708,105

McCormick et al., U.S. Patent 6,069,219

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chong H. Kim whose telephone number is (703) 305-0922. The examiner can normally be reached on Tuesday - Friday; 8:00 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Bucci can be reached on (703) 308-3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



CHONG H. KIM
PRIMARY EXAMINER

chk
August 3, 2004